

Psychometric Evaluation of the Persian eHealth Literacy Scale (eHEALS) Among Elder Iranians With Heart Failure

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Abstract

The purpose of the present study was to examine the psychometric properties of the eHealth Literacy Scale (eHEALS) using classical test theory and modern test theory among elderly Iranian individuals with heart failure (HF). Individuals with objectively verified HF ($n = 388$, 234 males, mean age

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$= 68.9 \pm 3.4$) completed the (i) eHEALS, (ii) Hospital Anxiety and Depression Scale, (iii) Short Form 12, (iv) 9-item European Heart Failure Self-Care Behavior Scale, and (v) 5-item Medication Adherence Report Scale. Two types of analyses were carried out to evaluate the factorial structure of the eHEALS: (i) confirmatory factor analysis (CFA) in classical test theory and (ii) Rasch analysis in modern test theory. A regression model was constructed to examine the associations between eHEALS and other instruments. CFA supported the one-factor structure of the eHEALS with significant factor loadings for all items. Rasch analysis also supported the unidimensionality of the eHEALS with item fit statistics ranging between 0.5 and 1.5. The eHEALS was significantly associated with all the external criteria. The eHEALS is suitable for health-care providers to assess eHealth literacy for individuals with HF.

Keywords

classical test theory, eHealth literacy, heart failure, Iran, modern test theory

Contemporary technology allows individuals to seek health information on the Internet via devices such as Wi-Fi-enabled smartphones, tablets, and laptops. The Pew Research Internet Project estimates that more than 85% of American adults use the Internet, and nearly three - quarters of them have searched for health information online (Pew Research Center, 2016). However, searching for health information is different from interpreting health information. More specifically, individuals may lack sufficient knowledge to interpret the health information they access and read online. Therefore, assessing eHealth literacy is deemed a prerequisite for health-care providers to promote eHealth resources to patients who may need them (Norman & Skinner, 2006).

eHealth literacy is defined as “the ability to navigate the Internet for health information” (Nguyen et al., 2016, p. 2). eHealth literacy can be challenging for patients, given the many different core skills or literacies that exist including (i) traditional literacy, (ii) health literacy, (iii) information literacy, (iv) scientific literacy, (v) media literacy, and (vi) computer literacy (Norman & Skinner, 2006). More specifically, patients should have the knowledge to access, retrieve, evaluate, and appraise the information they gain online (Norman & Skinner, 2006). Patients are likely to obtain different types and quality of information that they need to further compare and evaluate. Moreover, given the rapid change of both care routines and